

PRELIMINARY AMENDMENT  
Serial No. 10/688,371

**AMENDMENTS TO THE SPECIFICATION**

**Page 35, please amend the first complete paragraph as follows:**

The "center of mass" of the transformed image  $h$ , given as

$$CM = \left( \sum_{(\rho, \theta)} (\rho, \theta)^T * H(\rho, \theta) \right) / \sum_{(\rho, \theta)} H(\rho, \theta), \text{ in which each bin is interpreted as an element with a}$$

mass equivalent to its count, is a way to measure the predominant angles of the trabecular segments. The angle at ~~each~~  $CM$  is measured with respect to the alveolar rim to obtain a standardized value. More importantly, the variance of the segment angles (again measured after thresholding the bin counts) provides information on the anisotropy of the trabecular structure. Histomorphological studies of osteoporotic vertebrae have shown that the variability of trabecular orientations decreases with the disease.

**Page 35, please amend the third complete paragraph as follows:**

Let a two-dimensional structuring element  $[[e]]$   $\underline{E}$  be a function over the window  $-m \leq i, j \leq m$  ( $m > 0$ ) with  $E(i, j) \in \{0, 1\}$ . The dilation operator sets a pixel value  $f(x, y)$  in a gray scale image  $f$  to the maximum of those values within the window of size  $m$ , for which  $\underline{E(i, j)} = 1$   $e(i, j) = 1$ :

$$[f \oplus E](x, y) = \max_{-m \leq i, j \leq m} \{f(x+i, y+j) | E(i, j) = 1\}$$

**Please amend the paragraph bridging pages 38-39 as follows:**

The variance of the pixel gray values in the ~~roi~~ ROI,  $\text{var } f(x, y)$ , describes the variability of the pixel intensities and can therefore be a measure of the degree of trabeculation. A loss of trabecular bone is predicted to be reflected by a decreased  $\text{var } f(x, y)$ . Southard & Southard (1992) *Oral Surg Oral Med Oral Pathol* 74:111-117.